CLINICAL IMAGE

Twiddler's syndrome: a rare complication of pacemaker implantation

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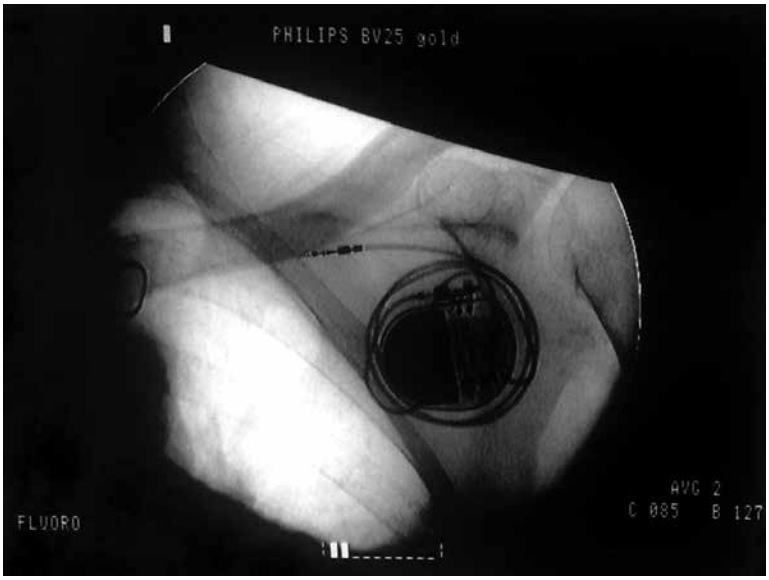

FIGURE Fluoroscopic image showing the pacemaker with the ventricular lead twisted around it

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A 77-year old male patient with arterial hypertension, permanent atrial fibrillation, atherosclerosis, and psycho-organic syndrome was admitted to the hospital because of syncopal episodes occurring over the previous 2 years. A resting electrocardiogram (ECG) showed atrial fibrillation with third-degree atrioventricular block and escape ventricular rhythm of 35 bpm. As a result, a permanent pacemaker was implanted subcutaneously below the left clavicle (VVIR, Sensia Medtronic with an active-fixation bipolar ventricular lead, Medtronic 5076–5058 cm). There have been no complications during pacemaker implantation and periprocedural period. Fluoroscopy confirmed appropriate ventricular lead placement and an ECG revealed proper ventricular stimulation.

Two months after pacemaker implantation, the patient was readmitted to the hospital because of syncope. Pacemaker interrogation showed complete loss of pacing and sensing in the ventricular lead. The patient was rushed to cardiac catheterization laboratory. Fluoroscopy revealed the pacemaker with a ventricular lead twisted around it (**FIGURE**). The pacemaker pocket was immediately reopened and the old ventricular lead was removed. A new active-fixation bipolar ventricular lead was inserted. The lead was found to have good sensing and pacing parameters. The pacemaker was fixed on the pectoral muscle with non-absorbable suture. Postoperative hospital stay was uneventful and the patient's condition was good at follow-up visits.

Twiddler's syndrome, first described by Bayliss et al.[1] in 1968, is an uncommon complication of device implantation with a frequency of 0.07% to 4% and mortality rate below 0.1%.[2,3] The syndrome is more common among elderly, obese, and mentally disordered patients. In most patients, it is diagnosed within the first year of implantation. It is characterized by painless dislodgement of the leads caused by the patient's manipulation of the implanted device. In summary, Twiddler's syndrome is a rare complication of permanent pacemaker implantation with potential life-threatening complications. It may be prevented by ensuring the active fixation of the pacemaker leads.

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